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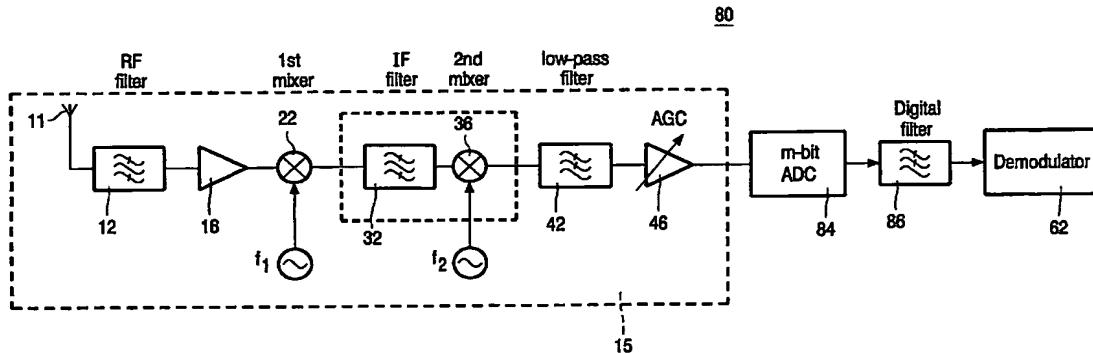
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(54) Title: WIRELESS COMMUNICATION RECEIVER HAVING AN ADC WITH A LIMITED DYNAMIC RANGE



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(57) Abstract: The present invention provides a low cost receiver by reducing the required dynamic range of the ADC in a wireless communication receiver, without degrading the receiver performance. In the wireless communication receiver of the invention, a digital filter is used to filter digital signals from the ADC to attenuate residual interferers in the digital signals by a predetermined amount (e.g., more than that prescribed in a technical specification). This allows relaxation of tolerable quantization noise generated by the ADC to a pre-defined level to thereby substantially reduce a dynamic range of the ADC. This pre-defined level of quantization noise is higher than a level prescribed by the receiver's sensitivity, while the total interference of the receiver is kept at a level not greater than an allowable level. Thus, the ADC has a word length that corresponds to the reduced dynamic range. Accordingly, not only the cost of the ADC is decreased, the costs of all signals processing modules following the ADC are also decreased, resulting in a substantial reduction in the overall cost of the receiver.



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